



STATE OF DELAWARE
Department of Technology and Information

801 Silver Lake Blvd.
Dover, Delaware 19904

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Document Title:	Change Control Procedure	Version 7.0	Date 2/17/2017

Synopsis:	This procedure implements the Change Control Policy established to control changes introduced into the production operating environments under the direct control of the DTI in a way that appropriately balances the risk of disruption to DTI customers and the effective introduction of necessary changes. It describes the methodology for introducing change into the DTI production environment. These changes can affect applications, networks, hardware, software, databases, physical infrastructure, and other technology assets used by the state of Delaware and the DTI. The guiding principle of Change Control Policy is to protect the DTI's customers from undue risk of service disruption.		
Authority:	Change Control Policy, 1/29/2003, as revised Aug 2016,		
Applicability:	This procedure applies to all employees of the Department of Technology and Information (DTI) as well as contractors, agents, vendor service representatives and other state employees authorized to implement changes to DTI's production operating environments (hereafter referred to as Change Agents).		
Recension Information:	Supersedes all previous versions.		
Effective Date:	8/21/2003	Expiration Date:	None
POC for Changes:	DTI System Control Team		
Approval By:	Architecture/Data Management Team Leader		
Approved On:	2/17/2017		

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PROCEDURE

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Overview

This procedure supports the Department of Technology and Information's (DTI's) Change Control Policy (http://extranet.dti.state.de.us/information/dtie_information_policies.shtml). Some Documents associated with this procedure are located on DTI internal servers with limited access. If you are not able to access a specific resource, contact a member of the Systems Control Team. The Change Control Procedure provides a structured method of controlling, reporting, and measuring changes to the production-operating environment. A change is any action that results in an addition to, alteration of, and or deletion of but not limited to one (1) or more of the following: hardware, software, application, network, or infrastructure of a computer environment or configurable item. It can be any change made to the existing system, application, configuration, or other configurable item, whether the change is a system upgrade, hardware/software addition or deletion, modification to code, or an alteration of networks or infrastructure.

The automated tool, ServiceNow enhances facilitation of the Change Control procedures and process described in this document.

Federal Tax Information Requirement

When Federal Tax Information (FTI) and related systems are involved in a requested change, the retention period of information and handling of the change document is available in the IRS Publication 1075, Tax Information Security Guidelines for Federal, State and Local Agencies. The publication is located on the IRS website at <https://www.irs.gov/forms-pubs>.

Procedural Framework

The Change Advisory Board (CAB) conducts business and makes decisions using the following framework:

- Initiation (Acceptance)
- Classification (Prioritize and Categorize)
- Approvals (Assess, Authorize, and Schedule)
- Coordination (Build, Test, Implement, and Post-Implementation Review Retention)
- Management Information
- Retention

Roles and Responsibilities

Roles include the Change Manager, Changer Requester, Implementer, Approver(s), and Work Manager(s). See Appendix: [Change Control Process Flow – High Level](#)

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Change Manager

Leads the CAB and has accountability for the change review meetings along with having final approval for all changes except for Emergency changes.

Change Manager Responsibilities		
Receive Request	Log Request	Verifies priority in collaboration with the Change Requester
Assigns coordinator to the change ticket	Convene CAB/EC meetings	Authorizes acceptable changes
Gives final approval on all changes	Communicates with all necessary parties to coordinate change	Performs follow-up on changes to determine the completion code – See Post Implementation Review
Reviews all change requests for consideration or awaiting action	Produces regular and accurate change control management reports	Ensures retention is handled based on Retention section of this document
Allocates the Change Ticket Number		

Change Requester (Initiated by)

This is the resource requiring the change and opening the Request for Change (RFC) ticket (also known as the change request or change ticket). The Change Requester can be the resource opening the change ticket (as the Initiator) or they could be the resource that does not have the authority to submit a RFC and they therefore must work through a change Initiator (ticket owner).

Implementer (Assigned to)

This is the resource implementing the change. This resource is responsible for documenting the change request and for getting approval from the client on the testing results prior to implementation. The Implementer creates the Implementation plan, the Back-out plan, and all other required documentation to support the implementation of the change. The Implementer is responsible for reporting status on the change to the Change Manager after implementation.

Initiator (Ticket Owner)

Initiator (Ticket Owner) Responsibilities		
Opens the change request	Can be the same person as the Change Requester	Completes all mandatory fields in ServiceNow

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Provide names and information on: Requestor; Initiator; Requesting Organization; Telephone Number; Implementer and implementer's work manager (supervisor); Impacted group(s), customer(s), and/or organizations(s); Approver group(s) to be notified (if known)	Annotates support staff requirements and escalation contact names and include vital information	Identifies Change Type: Scheduled Alert Fast Track Emergency
Identifies Change Category	Identifies technology affected	Provides Dependencies and Requirements
Identifies platforms – impacted and exclusively being used for the change	Proposed implementation date and time	Provides Back Out Requirements
Identifies which Data Center(s) is/are impacted	Provides business and/or technical justification	Provides all necessary documentation is attached according to the Change Type

Approvers

This role represents the different functional areas in DTI and applicable agencies and or school districts. Approvers review the change request to ensure the implementation will not have an adverse impact on their area of responsibility and the client they support.

Work Manager

The workload manager listed on the change request should be the immediate supervisor of the Implementer.

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Change Type Criteria

Scheduled	Alert	Fast Track	Emergency
Impacts a production operating environment	Impacts a production operating environment	Low impact change to the production operating environment	Unscheduled change to the production-operating environment
Tasks are well known	Time-Bound implementation required outside of a scheduled changer	Does not follow the standard Scheduled Change Procedure	May be required as the result of an unscheduled outage
Attendance at the CAB meeting is required	Break/Fix Situations	Must be pre-approved on the Fast Track list	Change ticket is entered after the Emergency Change is completed
Follows an established path and is the accepted solution to a specific requirement or set of requirements	Requires justification describing how the issue is affecting the business along with the rationale for the change (i.e. legislative change)	Allows for a streamlined approach to implementing all pre-approved low-to-no-risk changes	Requires immediate corrections to a system application, hardware, telecommunication, security vulnerability and/or software prevent disruption of the daily production-operating environment
Requested and approved at least 14 days in advance of implementation date	Attendance at the CAB meeting is required	Attendance at CAB meeting is NOT required	May be preventative corrective action to avoid an outage where no workaround is available
Appendix: Scheduled Change Workflow	Appendix: Alert Change Workflow	Appendix: Fast Track Change Workflow	Appendix: Emergency Change Workflow
Documentation Required			
Implementation Plan	Implementation	As Needed	The description fields in ServiceNow explain emergency changes
Back Out Plan	Back Out Plan		
Client Sign-off test results	Client Sign-off test results		
Other documentation, as needed or requested	Other documentation, as needed or requested		

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Automated Change Request – ServiceNow

The Request for Change (FRC) is captured with the below listed information as entered by the Initiator and will be verified and or assigned by the Change Manager.

Information	Details	
Change Ticket Number	Generated Number	
If the change ticket is being generated to solve a problem	Problem is annotated and/or linked to the change ticket	
Name of the Change Requester, Initiator, requesting organization, and telephone number		
Name of the Implementer (assigned to) and the Implementer's Work Manager (direct supervisor)		
Name of the organization, customers, and or groups impacted by or during the implementation (Impact Analysis Assessment)		
Annotate support staff requirements and escalation contact names with phone numbers and/ or beeper numbers		
Name of Approver groups to be notified of the change		
Change Type	Scheduled	Fast Track
	Alert	Emergency
Change Category (Configurable Item) Note: It is the responsibility of the Change Manager to ensure the correct categorization of the request. The change initiator is only responsible for the first level of the categorization process.	System Application	Facilities
	Hardware	Inquiry
	Software	Output
	Telecommunication	Web
	Documentation	Decommission
	Administration	Data Security
	Go-live	Email
Technology service or facility being affected		
Platforms on which exclusive use is required during the implementation		
Platforms impacted during implementation		

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Information	Details
Proposed implementation date and time (planned start and end times)	
Back-out time requirements	
Annotate the dates and times of the scheduled outage for the change, if applicable	
List the location(s) impacted by and or during implementation	William Penn – Dover
	DEMA
	Biggs – New Castle
	DOT (various locations to be selected)
	Carvel – Wilmington
	DNREC
Business and or technical justification (problem resolution, project, benefit gained, etc.) – Only applicable to Alert Changes	
Attach all the necessary documentation based on the change type - documents need to be attached with every change request electronically and or manual. If it exceeds the size, then include the location of the hard copies of the documents in the ticket manually (via e-mail with the appropriate change ticket number stated)	System Support Guide
	Implementation & Back Out Plan
	Data Media Storage Retention Form
	Job Entry Form
	Risk Assessment and Mitigation Plan
	Client Approval of Test Results
The Change Manager allocated to the Change Ticket will review it for the applicable detail accepting or denying based on whether or not the information in the ticket is complete.	
If the change is denied, the Change Manager is responsible for notifying the Change Initiator that the ticket is denied and the reason for denial.	
The Initiator makes the necessary adjustments and notifies the Change Manager that the ticket is ready for review once again.	
Change Ticket Number	Generated Number

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Information	Details	
If the change ticket is being generated to solve a problem	Problem is annotated and/or linked to the change ticket	
Name of the Change Requester, Initiator, requesting organization, and telephone number		
Name of the Implementer (assigned to) and the Implementer's Work Manager (direct supervisor)		
Name of the organization, customers, and or groups impacted by or during the implementation (Impact Analysis Assessment)		
Annotate support staff requirements and escalation contact names with phone numbers and/ or beeper numbers		
Name of Approver groups to be notified of the change		
Change Type	Scheduled	Fast Track
	Alert	Emergency
Change Category (Configurable Item) Note: It is the responsibility of the Change Manager to ensure the correct categorization is used. The change initiator is only responsible for the first level of the categorization process.	System Application	Facilities
	Hardware	Inquiry
	Software	Output
	Telecommunication	Web
	Documentation	Decommission
	Administration	Data Security
	Go-live	Email
Technology service or facility being affected		
Platforms on which exclusive use is required during the implementation		
Platforms impacted during implementation		
Proposed implementation date and time (planned start and end times)		
Back-out time requirements		

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Information	Details
Annotate the dates and times of the scheduled outage for the change, if applicable	
List the location(s) impacted by and or during implementation	William Penn – Dover DEMA Biggs – New Castle DOT (various locations to be selected) Carvel – Wilmington DNREC
Business and or technical justification (problem resolution, project, benefit gained, etc.) – Only applicable to Alert Changes	
Attach all the necessary documentation based on the change type - documents need to be attached with every change request electronically and or manual. If it exceeds the size, then include the location of the hard copies of the documents in the ticket manually (via e-mail with the appropriate change ticket number stated)	System Support Guide Implementation & Back Out Plan Data Media Storage Retention Form Job Entry Form Risk Assessment and Mitigation Plan Client Approval of Test Results
The Change Manager allocated to the Change Ticket will review it for the applicable detail accepting or denying based on whether or not the information in the ticket is complete.	
For a denied change, the Change Manager is responsible for notifying the Change Initiator the reason for denial.	
The Initiator makes the necessary adjustments and notifies the Change Manager that the ticket is ready for review once again.	

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Definition of Documents

System Support

The System Support Guide details information such as the system's purpose, architecture, criticality, Second Level Support contact, and client contact information. For new systems introduced into the Data Center, a System Support document will be completed and accompany the change. Any modifications to an existing production system will require an updated System Support document to accompany the change. Refer to for System Support Request Template.

Implementation and Back Out Plan

Refer to Appendix: [Implementation & Back-Out Plan Sample](#). The Implementation Plan is a detailed systematic plan that the Implementer follows to move the change request into production. The plan should include Go/No-Go points. Go/No-Go points are established based on the following criteria:

- The implementation time requires more than 1/2 of the allotted change timeframe
- The back-out requires more than 1/3 of the implementation timeframe
- The back-out impacts the entire system (e.g., IPL or server reboot)

The Back-out Plan is detailed with the conditions under which a back out must be executed, the timeframe needed to perform the back-out, the back-out risk assessment, a step-by-step procedure for reversing the change, and a plan to mitigate the severity of any potential negative impact resulting from implementation reversal.

Risk Assessment and Mitigation Plan

The Implementer must document the known risk and prepare a mitigation strategy to overcome the risks. All requests will include a risk assessment score. Refer to the [Change Control Risk Assessment Chart](#) to calculate this score. This is only for scheduled changes and alerts.

Test Results

Test Results include evidence the testing is complete and the client is satisfied with the results. A communication from the client stating that testing successfully completed is required prior to approval for implementation. Attach the client signoff on testing results to the change request. Prior to implementation, all security aspects of a change are tested.



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Change Classification – Priority and Risk Level

Priority

The assignment of priorities is determined based on the impact of the problem and the urgency for a remedy. The CAB uses the priority rating in the assessment process. While the Change Requester initially sets the priority, the Change Manager can change it. Four (4) priority ratings are available for assigning to a change request.

Priority Rating Chart	
Priority Rating	Priority Definition
Immediate	An event that affects multiple users or has the potential to disrupt vital state business processes. Immediate action is required. The CAB or CAB/EC meeting may be convened.
High	An event that severely affects users or impacts a large number of users.
Medium	An event with no immediate impact on the customer(s); however, rectification cannot be deferred until the next scheduled release cycle or upgrade.
Low	A change which has is justified/planned, necessary, and can wait until the next scheduled release cycle or upgrade.

Risk

Six risk levels (0-5) are available for assigning to any change request. The appropriate risk level is determined using the Risk Assessment Chart.

Assign a risk score for each of the functional areas and then use the total number to assign the change risk level. For example, a change with a risk score of “1” for the Risk Impact; “3” for Customer Impact; “3” for Business Impact; and “2” for User Impact, receives a score of “9” resulting in a Change Risk Level of “Significant” with a ServiceNow entry of “3 – Moderate Risk.”

Risk Assessment Chart					
Risk Score	Risk Impact	Customer Impact	Business Impact	User Impact	Change Risk Level
4	Change cannot be backed out. Validation based on agency usage.	Impacts all Agencies/ Organizations and/or Impacts all DTI managed facilities	Service outage causes impact to revenue and/or client services	Impacts 75 percent or more users	Very High

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Risk Assessment Chart					
Risk Score	Risk Impact	Customer Impact	Business Impact	User Impact	Change Risk Level
3	Detailed Implementation plan includes group coordination. Black Out plans > 30% of the outage window.	Impacts use of entire platform or network and/or Impacts multiple platforms/networks and/or Impacts multiple systems or Agencies/Organizations	Service outage impacts a critical platform or device	Impacts 50 to 75 percent of users	Somewhat high
2	General implementation plan. Black Out plans > 20% of the outage window	Impacts single Agency/ Organization or DTI managed site and/or Impacts use of major component and/or Impacts use of major sub-system	Service outage impacts a non-critical platform or device	Impacts 25 to 50 percent of users	Moderate
1	Easily validated plan that can be backed out <10% of service window	Users still able to use system during implementation	No service outage	Impacts less than 25 percent of users	Some
0	Routine jobs performed on a regular basis.	No risk to network	Not even considered	No user impact	Low or None
Risk Impact + Customer Impact + Business Impact + User Impact = Change Risk Level					
Total		Change Risk Level		ServiceNow Entry	
14-16		Very High		→ 5 – very high risk	
11-13		High		→ 4 – somewhat high risk	
8-10		Significant		→ 3 – moderate risk	
5-7		Moderate		→ 2 – some risk	
2-4		Low		→ 1 – low risk	
0-1		No Risk		→ 0 – no risk	

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Change Approval

Impact and Resource Assessment

This CAB meeting members assess the impact on the customer's business operations and services due to the change; the impact on other services that are dependent on same infrastructures such as a software development project; and the impact on the non-IT infrastructure.

Authorization

The Change Manager is responsible for reviewing all Request for Change (RFC) submissions. Part of this review is to ensure that different individuals are not making multiple changes to the same software, hardware, and or application at the same time. For situations with change conflicts the following will occur:

- Whenever possible, the Change Manager will review the priority rating of the change to assist in resolving conflicts and reaching an agreement for a path forward prior to the CAB meeting.
- The Change Requester, owner or a representative for the change is responsible for negotiating resolution with the Change Manager.
- The Change Manager communicates conflict resolution to the appropriate parties.
- If additional support is required to resolve the conflict, the Change Manager will convene a meeting of the CAB/EC. The meeting will include the Change Manager, Requester and or Implementer, the DTI Site Supervisor, the implementer's team leader and other Team Leaders as needed.
- The Implementer's Team Leader has final approval authority for conflict resolution.

Approval

The approver(s) assess the impact of a change on their group and customers, and must either approve or deny a change request. Customer approved, correctly completed change requests are evaluated based on information included in the change request:

- Date/Time/Duration of change
- Description of change
- Impact to customers/organizations and to other scheduled changes
- Priority rating
- Potential conflicts—if concurrent changes are occurring, schedule a separate meeting to discuss
- Security relevance
- Attached, relevant documentation
- Any other information included with the change ticket

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For denied change requests, the Change Managers annotates issues surrounding the denial in the change ticket. All issues require resolution prior to resubmitting the request.

Appealing for Denied Change Request(s)

The Change Requestor may submit a [Change Control Appeal Form](#) to appeal the decision of the CAB.

- The Appeal Form is submitted to the Change Manager
- The Change Managers schedules a CAB/EC meeting to discuss the appeal
- A decision is reached
 - If the appeal is successful, an implementation timeframe will be assigned
 - If the appeal is not approved the request is closed with a completion code of cancelled
- The Change Manager communicates to the Requester the status of the appeal

Delaying a Change Window

There may be instances when a change request has met all the criteria outlined in this document, but the change is delayed to not allowed is not allowed in a specific change window of time. Examples when this may occur are:

- A particular change window has a large number of changes scheduled, and allowing additional changes may cause the environment to become unstable or cause the change window to be missed.
- During Instances of a change freeze. All change freezes will be communicated to the affected customers and DTI at least 14-days in advance.
 - The installation of new mainframe or a major upgrade to an existing mainframe
 - The Data Center & Operations Team Leader implements a necessary change freeze

Scheduling

Every member of the CAB is required to review all change requests.

Internal DTI Users: Refer to Location: T:\CAB Minutes and Reports\ (select WP Reports or Biggs Reports) for a Sample of a Forward Schedule Report (Change to Be Reviewed).

For those that do not have access to the DTI Shared Drive please contact the DTI System Control Group via the assigned mailbox resource at: DTI_System_Control@state.de.us

Coordination

Coordination includes the facilitating of Test, Implementation, and Post-Implementation Review

Implementation

Implementation Activity

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Activity	Activity Definition
Report Start/End Times	The implementer notes the actual start and end time of the change
Implement the Change	The change execution follows the implementation plan attached to the change request
Go or No-Go	The Implementer makes the decision on going ahead with the change or backing it out
No-Go or Back Out	The Implementer notifies the Change Manager immediately of a decision to stop or back out the change
Post Implementation Testing	If multiple components change, each component is tested to verify success
Status Update	The Change Manager follows up with the Implementer to obtain status
Major Implementations Follow up	(e.g. PHRST) – Change Manager follows up with the Implementer immediately following the change
Change requiring an Outage	The Implementer follows up with the Change manager regarding the status of the change

Post-Implementation Review

Post Implementation Activity	
The final stage of a change is the post implementation review, which includes the Change Manager and the Implementer. The purpose is to follow up on the implementation of the change. The Change Manager completes the following steps:	
Obtain information required to close out the change:	
	Actual start and end times
	Actual outage start and end times (if applicable)
	Change results
Verify success or failure of the change	
	Change implemented in accordance with the implementation plan
	Change implemented within the planned implementation start and end times
	Change caused no unplanned customer impact
	Change did not require the execution of the back out plan
	If the change was unsuccessful or was aborted after starting document reason(s) in the change ticket
	If there minor issues or deviations from the implementation plan occurred use the completion code: Successful with Issues.

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Assign the appropriate completion code for all closed change requests (see Completion Codes).
Implement a post implementation review as required to discuss issues or deviations

Completion Codes		
Code	Completion Status	Definition
1	Successful	Implemented according to the implementation plan Meets the requirements of the request
2	Successful with Issues	Implemented with minor deviations from the implementation plan due to issues Change meets business requirements
3	Unsuccessful	Cannot be implemented due to issues Change was backed out
4	Rejected	Denied by the CAB or approvers
5	Cancelled	Not implemented because the Requester withdrew the change request

Management Information

The System Control Team is responsible for tracking Key Performance Indicators (KPI). The Statistics Cycle is from Sunday to Saturday (cumulative monthly, fiscally and annually).

Criteria A	Criteria B	Number (Criteria A)	Percentage (Criteria B)	Frequency
Total Tickets Submitted	Weekly, Monthly, Fiscally, Annually	X		X
Total Successful Changes	Total Submitted	X	X	
Total Successful with Issues	Total Submitted	X	X	
Total Unsuccessful	Total Submitted	X	X	
Total Withdrawn	Total Submitted	X	X	
Total Cancelled	Total Submitted	X	X	
Total Emergency	Total Submitted	X	X	
Total Scheduled	Total Submitted	X	X	
Total Alert	Total Submitted	X	X	
Total Fast Track	Total Submitted	X	X	
Total Changes Implemented	Last 14 Calendar Days	X		

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Total Changes Planned	Next 14 Calendar Days	X		
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Retention

Change Control Management Documentation Retention Schedule		
Record Type	Retention	Disposition
Records pertaining to Change Request	Kept for a period of three (3) years from the date of entry of the Change Ticket	Shredded and/or electronically purged for confidentiality purposes
IRS Federal Tax Information	Per IRS Publication 1075, 9.3.5.3. Configuration Change Control (CM-3)	
Configuration Controlled Changes	Per IRS Publication 1075, 9.3.5.3. Configuration Change Control (CM-3)	

DEFINITIONS

See Appendix: Glossary

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DEVELOPMENT AND REVISION HISTORY

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REVIEWER	UPDATE	VERSION #	VERSION DATE
	Initial Version		1/29/2003
Dorothy Kope	Revised Version	7.0	2/2/2017

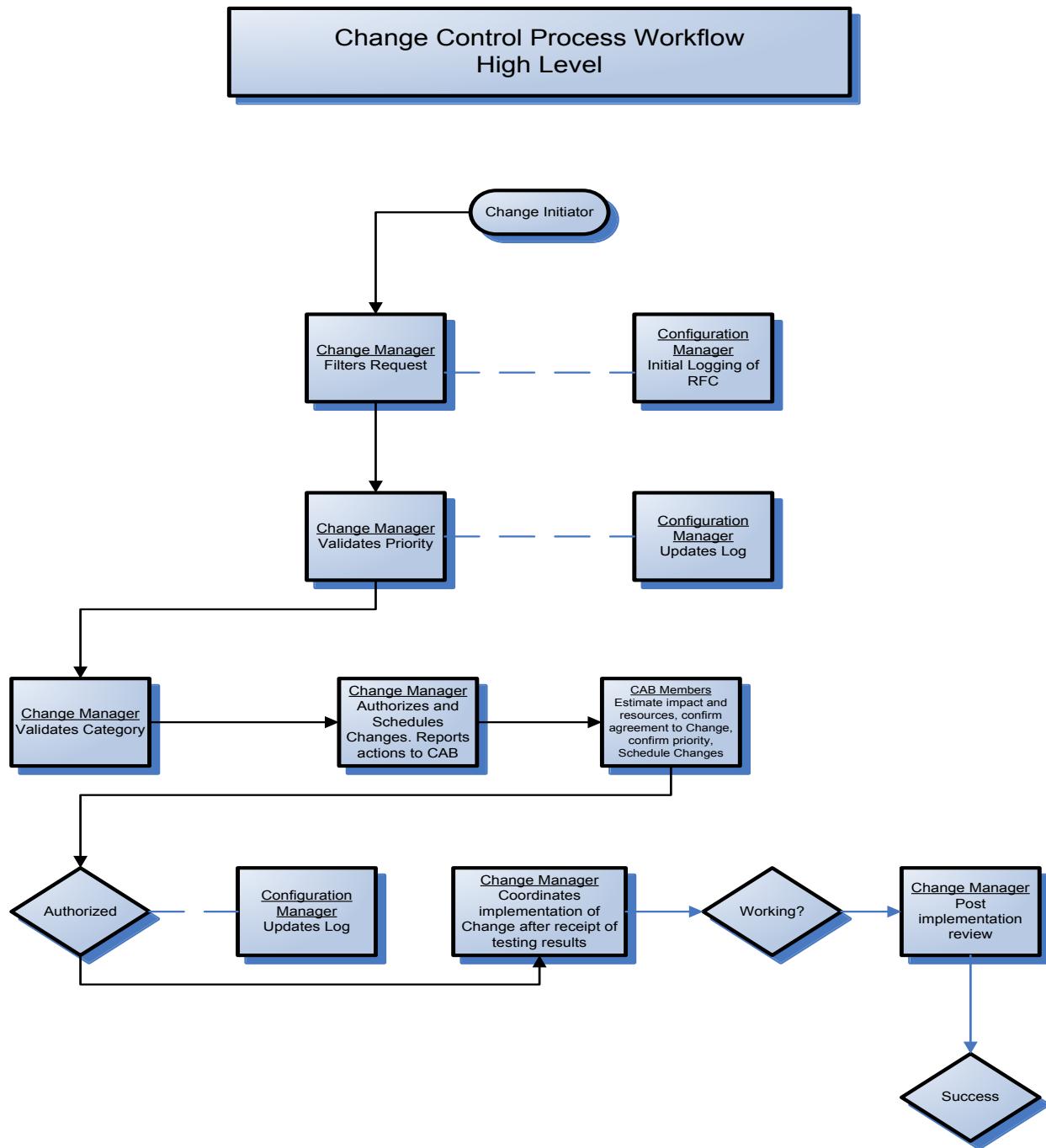
APPROVAL

<i>Original Signed and maintained in the OPR.</i>	
Name & Title: Rhonda Lehman Architecture/Data Management Team Leader Department of Technology and Information	Date of Signature 2/17/17

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Appendix: Change Control Process Flow – High Level



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Appendix: Change Advisory Board (CAB)

The CAB is a group of people with the decision authority to deny, delay or approve changes. Members include:

- Change Manager (a member of the System Control Team)
- Application developers, as needed
- Technical consultants from each area (Operations, Mainframe, Applications, Telecommunications, Systems Engineering, Security, etc.) as needed
- DTI Service Desk representative
- Customer Relationship Specialist
- Approvers from each functional area within DTI
- Disaster Recovery
- Agency Representation as needed

The CAB chairperson is the Change Manager and is a member of the System Control Team. The Change Manager is responsible for CAB meeting agendas and minutes and will schedule and facilitate the meeting.

The purpose of CAB meetings is to review the changes planned for implementation in the upcoming change window and the status of changes implemented in the previous change window.

Each DTI technology area should send a representative to the CAB meeting. Each representative is responsible for reporting on all changes implemented by their area and communicating back to their team any pertinent changes implemented by others.

The Change Manager will distribute an agenda one day prior to each CAB meeting and will post CAB meeting notes by the close of business on the day of the meeting.

The Change Initiator will attend the CAB and explain the reason for the change, discuss planned start and end times, provide a brief description of events, summarize the impact assessment, and provide required inventory updates, and implementation, and back out plans.

MEETING GUIDELINES <ul style="list-style-type: none"> • Meeting starts promptly • Reviews are done on a “first come-first serve” basis • Participants are free to excuse themselves after their review is completed • Participants are to be prepared to explain changes in an open forum • Participants can join remotely 	Agenda includes: <ul style="list-style-type: none"> • Review of Changes with issues since last CAB meeting • Review of Pending Requests for Change (RFC) • Outstanding Business and or Action Items • Outage Reminders for the Next 14-days 	Minutes include: <ul style="list-style-type: none"> • Meeting date, time, location, and facilitator • DTI Attendance • Attendance of implementers and guests • Review of Changes previously approved (Next 14-days) • Review of Pending Requests for Change • Outstanding Business and or Action Items • Outage Reminders for the Next 14-days
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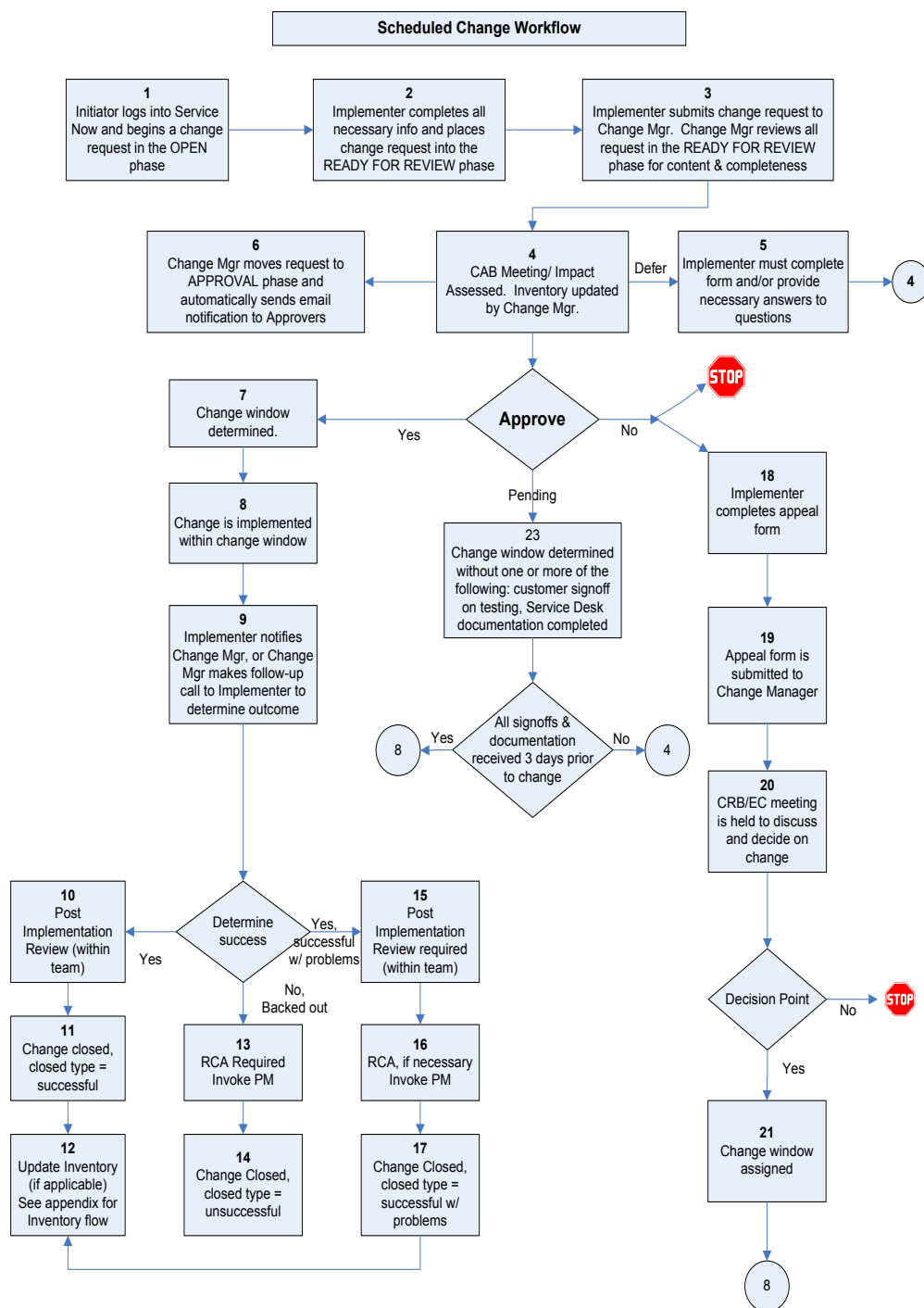
Appendix: Change Advisory Board Emergency Committee (CAB/EC)

Change Control Board Emergency Committee (CAB/EC)

The Change Manager, DTI Site Supervisor, and Teams Leaders from the technical area within DTI comprise the Change Advisory Board Emergency Committee (CAB/EC). The Committee handles emergency change requests, appeals, and intervenes in conflict resolution when needed.

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Appendix: Scheduled Change Workflow



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1. The Initiator logs into ServiceNow, accesses the Change Request module, and begins a change ticket with Scheduled selected as the change type. The change request is initially in the OPEN phase.
2. The Implementer completes all necessary information, attaches required documentation, and places the change request into the READY FOR REVIEW phase, submitting the change request to the Change Manager.
3. The Change Manager reviews all requests in the Ready for Review phase for content and completeness.
4. The Change Control Board (CAB) reviews the change request. Review and update the Impact Assessment. The Change Manager updates the inventory.
5. For deferred changes, the Implementer must complete any missing forms and answer questions from the CAB.
6. The Change Manager moves the change request to the APPROVAL phase and an email notification is sent to the Approvers.
7. For approved changes, the implementation timeframe within the change window is determined.
8. The Change Manager moves the change to the implementation phase. The change is implemented within the approved implementation timeframe.
9. The Implementer notifies the Change Manager, or Change Manager makes a follow-up call to the Implementer to determine the outcome of the implementation.
10. When a successful change is determined, a Post-Implementation Review within the Implementation team may be required.
11. The Change Manager closes the change (CLOSE phase) with the completion code **successful**.
12. The Change Manager updates the Inventory Control Module (if applicable).
13. For changes that are not successful or that had to be backed out, the notification will be sent to the Problem Manager to invoke the problem management process.
14. The Change Manager closes the change (CLOSE phase) with the completion code **unsuccessful**.
15. For changes that are successfully, but with problems, a Post -Implementation Review within the implementation team is required.
16. A Root Cause Analysis (RCA) may be required if a change is successfully implemented with problems. The Change Manager will determine if the RCA is necessary and notify the Problem Manager to invoke the Problem Management Process.
17. The Change Manager closes the change (CLOSE phase) with the completion code **successful w/ problems**.
18. For Denied changes, the Implementer may accept the decision of the CAB and the change request is closed. If the decision is not accepted, the Implementer will, within three (3 business days of the denial) complete an Appeal Form to begin the appeal process. [Refer to Change Control Appeal Form.](#)

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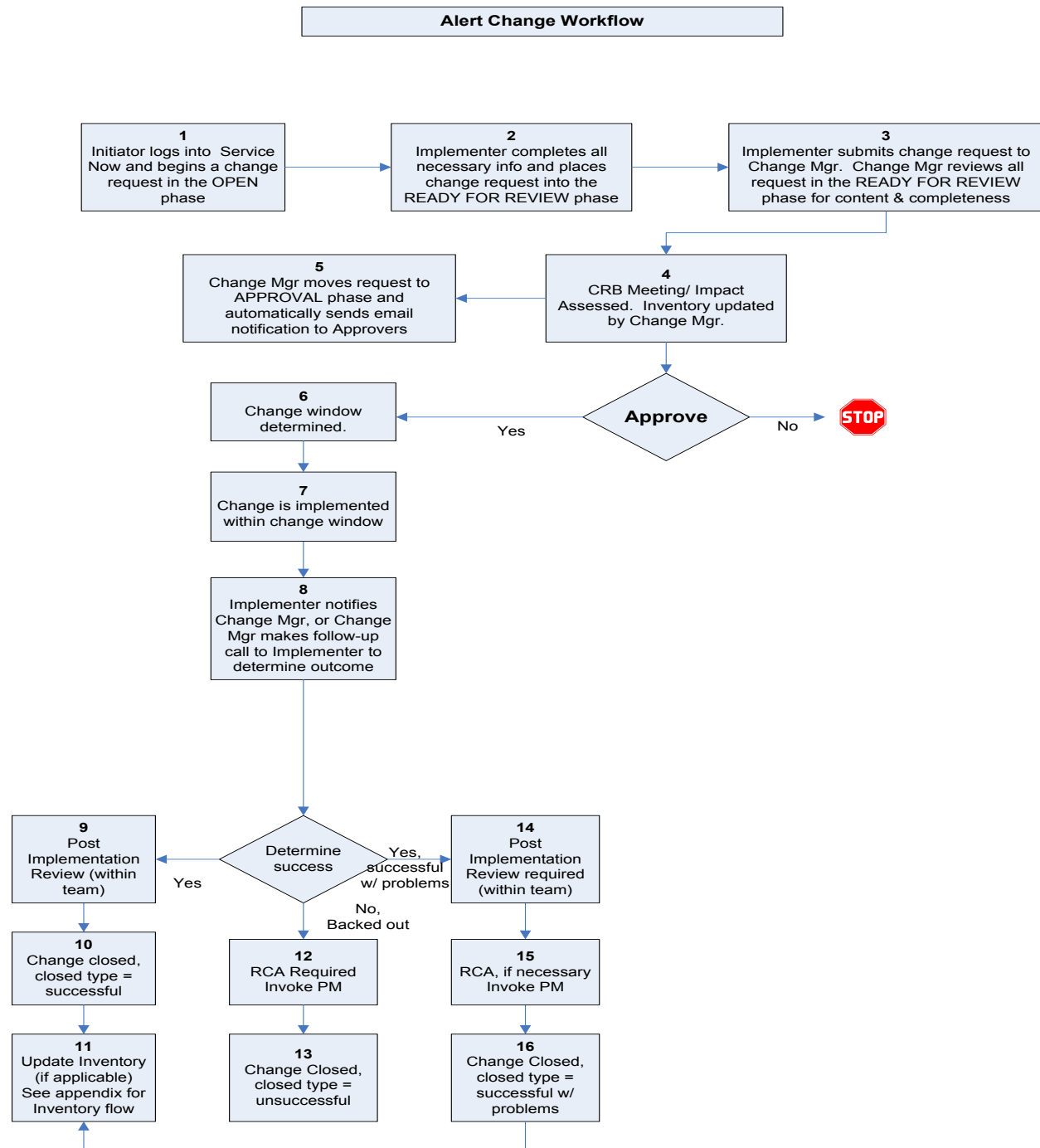
19. Submit the Appeal Form to the Change Manager.
20. A Change Advisory Board/Emergency Committee (CAB/EC) meeting convenes to discuss the appeal and determine the outcome of the appeal.
21. If the CAB/EC agrees with the appeal, a change window is assigned within the implementation timeframe.

NOTE:

A change request goes into a pending approval state if the request is missing the required documentation such as the customer sign-off of test results, or the Service Desk documentation. The Change Manager notifies the customer that they are to upload the missing documentation in ServiceNow at least three calendar days prior to the implementation date.

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Appendix: Alert Change Workflow



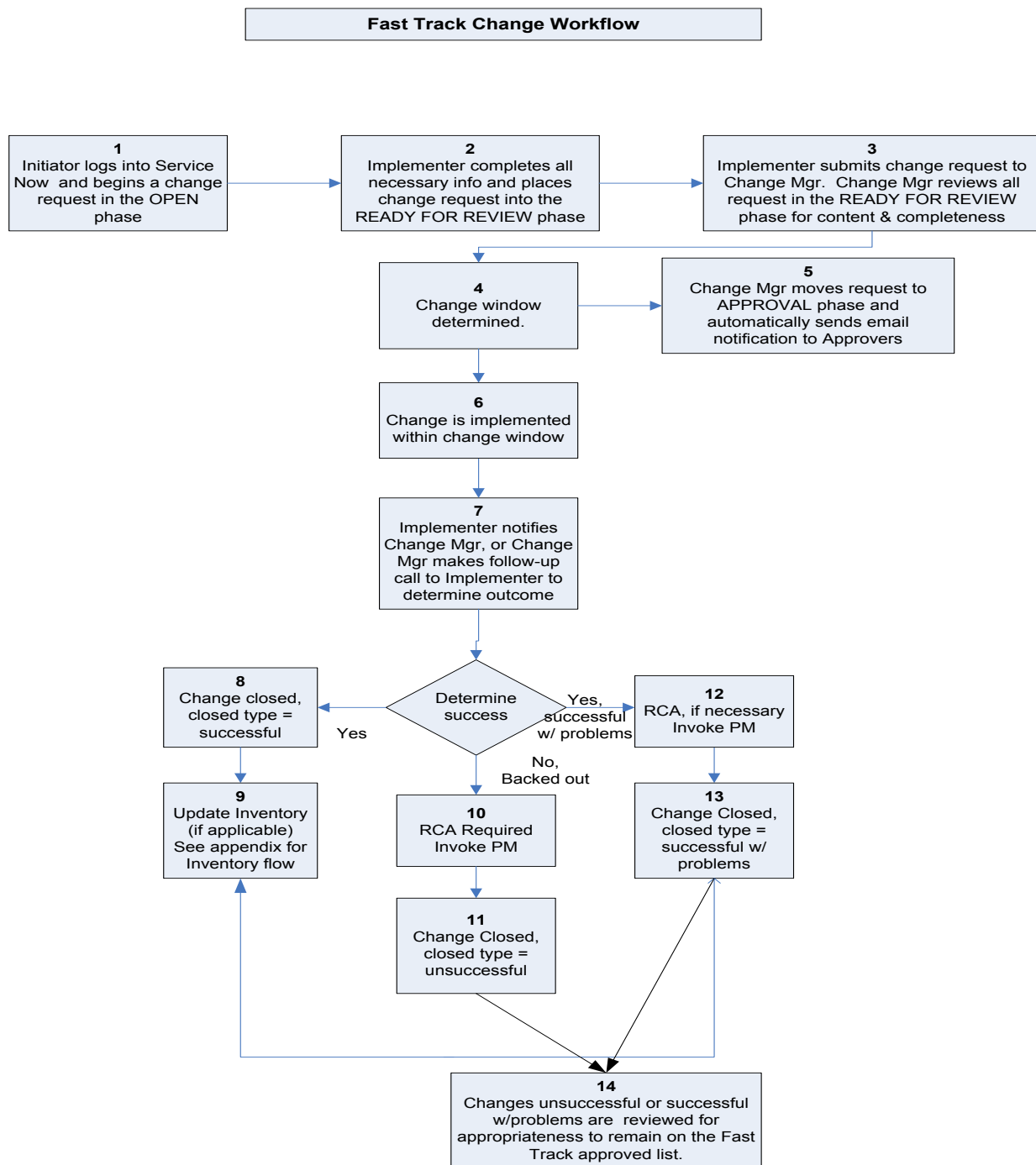
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1. The Initiator logs into ServiceNow, accesses the Change Management module, and begins a change ticket with Alert selected as the change type. The change request is initially in the OPEN phase.
2. The Implementer completes all necessary information, attaches required documentation, and places the change request into the READY FOR REVIEW phase, submitting the change request to the Change Manager.
3. The Change Manager reviews all requests in the Ready for Review phase for content and completeness.
4. The Change Control Review Board (CAB) Meeting reviews the change request and updates the Change Manager updates the Impact Assessment and the inventory, as required.
5. The Change Manager moves the change request to the APPROVAL phase and an email notification generates to the Approvers.
6. For an approved change, the implementation timeframe within the change window is determined.
7. The Change Manager moves the change to the implementation phase and the change implements within the approved implementation timeframe.
8. The Implementer notifies the Change Manager, or Change Manager makes a follow-up call to the Implementer to determine the outcome of the implementation.
9. A successful change may require a Post-Implementation Review within the implementation team.
10. The Change Manager closes the change (CLOSE phase) with the completion code **successful**.
11. The Change Manager updates the Inventory Control Module (if applicable).
12. Changes that are not successful or are backed-out require notification to the Problem Manager to invoke the problem management process.
13. The Change Manager closes the change (CLOSE phase) with the completion code **unsuccessful**.
14. For a successful change that implemented with issues or problems, a Post -Implementation Review within the implementation team is required.
15. A Root Cause Analysis (RCA) may be required if a change was successfully implemented with issues or problems. The Change Manager will determine if the RCA is necessary and notify the Problem Manager to invoke the Problem Management Process.
16. The Change Manager closes the change (CLOSE phase) with the completion code **successful with issues**.

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Appendix: Fast Track Change Workflow

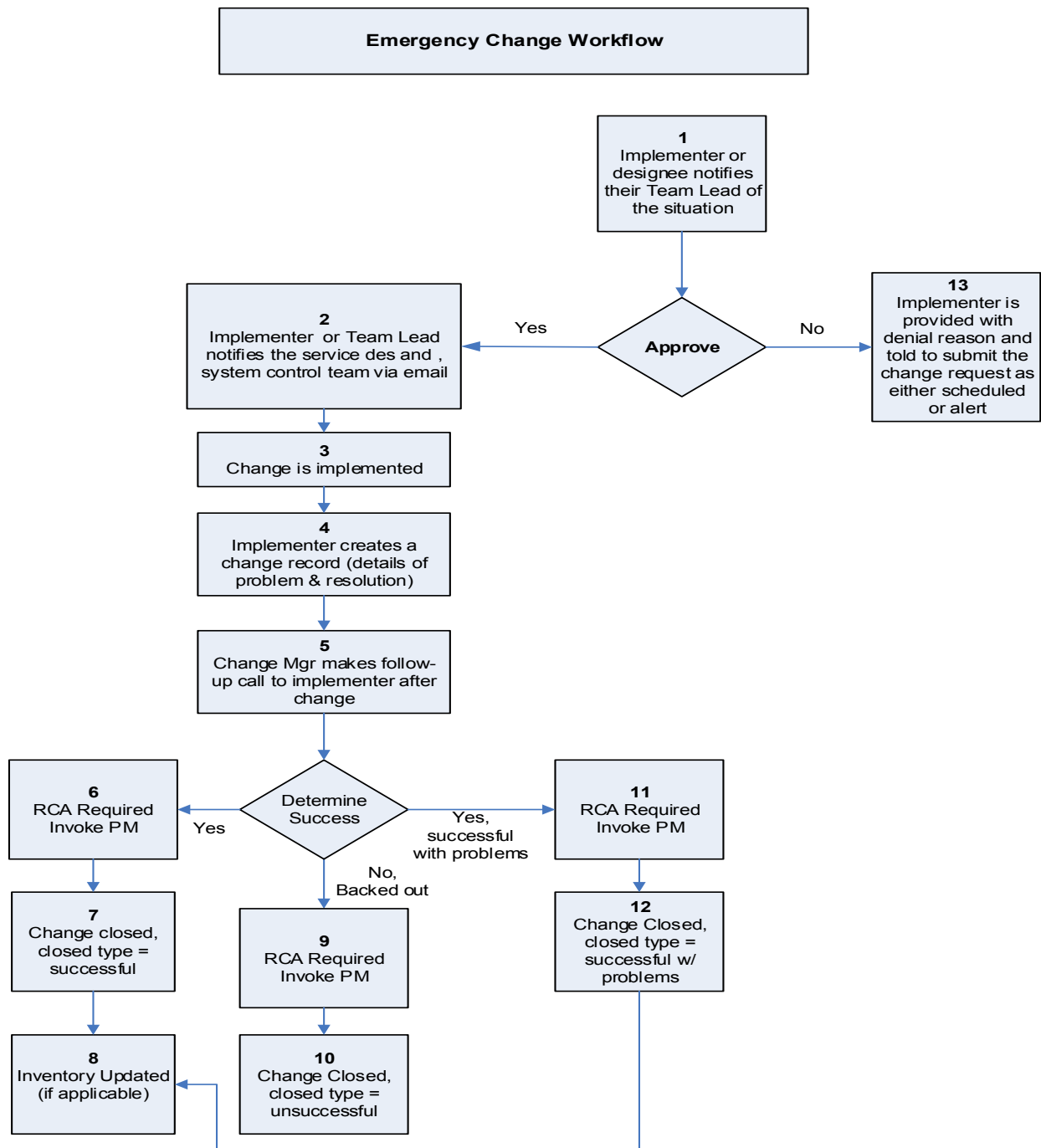


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1. The Initiator logs into ServiceNow, accesses the Change Management module, and begins a change request with Fast Track selected as the change type. The change request is initially in the OPEN phase.
2. The Implementer completes all necessary information and places change request into the READY FOR REVIEW phase, submitting the change request to the Change Manager.
3. The Change Manager reviews the request for content and completeness along with ensuring the change is on the approved list. The Change Manager updates inventory.
4. If the change is on the approved list of Fast Track changes, the implementation timeframe within the change window is scheduled.
5. The Change Manager moves the change to the Approval phase so Approvers can approve the change request.
6. The Change Manager moves the change to the IMPLEMENTATION phase and the change implements within implementation timeframe.
7. The Change Manager makes follow-up call to the Implementer after the change to determine the outcome.
8. If the change is successful, the Change Manager closes the change (CLOSE phase) with the completion code **successful**.
9. The Change Manager updates the Inventory Control Module (if applicable).
10. If the change was not successful and had to be backed-out, send notification to the Problem Manager to invoke the Problem Management Process.
11. The Change Manager closes the change (CLOSE phase) with the completion code **unsuccessful**.
12. Changes that complete successfully, but with problems, may require a RCA. The Change Manager will determine if the RCA is necessary and notify the Problem Manager to invoke the Problem Management Process.
13. The Change Manager closes the change (CLOSE phase) with the completion code **successful with issues**.
14. When a Fast Track Change is unsuccessful or successful /w problems, the System Control Team reviews the appropriateness of the change remaining on the Fast Track approved list.

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Appendix: Emergency Change Workflow



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The Implementer or designee notifies their Team Leader of the situation. If the Implementer is unsuccessful at quickly contacting their management and the situation demands the emergency change to be implemented as soon as possible to recover from or prevent an outage, and the change process is well understood, the change may be implemented with the approval of another team leader.

1. For an approved change, the implementer or Team Leader notifies the Service Desk, System Control Team, and Implementer via email or voice notification.
2. The change is implemented.
3. Implementer creates a change request in the ServiceNow Change Management module with Emergency selected as the category. The change request should provide details of the problem and its resolution.
4. The Change Manager makes follow-up call to Implementer after change.
5. For and Emergency Change completed successfully, the change is forwarded by the Change Manager to the Problem Manager to invoke the Problem Management Process.
6. The Change Manager closes the change (CLOSE phase) with the completion code **successful**.
7. The Change Manager updates the Inventory Control Module (if applicable).
8. For a change that was not successful and had to be backed-out, notify the Problem Manager to invoke the Problem Management Process.
9. The Change Manager closes the change (CLOSE phase) with the completion code **unsuccessful**.
10. If an Emergency Change completes successfully, with issues or problems, notify the Problem Manager to invoke the problem management process.
11. The Change Manager closes the change (CLOSE phase) with the completion code **successful with problems**.
12. The Change Manger will notify the Implementer of a denied emergency change request. The implementer is required to submit the change request as either scheduled or alert.

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Appendix: Fast Track and Exempt Lists and Additions

Exempt List Location:

Internal DTI Users: Refer to Location: *refer to location, T:\Change Control Template\ Change Control Exempt List.*

For those that do not have access to the DTI Shared Drive please contact the DTI System Control Group via the assigned mailbox resource: DTI_System_Control@state.de.us

Fast Track List Location:

Internal DTI Users: Refer to Location: *T:\Change Control Template\ Change Control Fast Track List.*

For those that do not have access to the DTI Shared Drive please contact the DTI System Control Group via the assigned mailbox resource: DTI_System_Control@state.de.us

Fast Track/Exempt Additions Approval Procedure:

A request for an addition to the Fast Track/Exempt Change list must meet all of the following requirements:

- Change is simple in nature
- Implementation contains low to no risk as determined by the risk assessment chart
- Potential impact from a failed change is minimal
- Requires no service outage
- Easily validated (change results), implemented, tested and backed out
- Failed fast track change will cause no negative impact or service impact

If the request meets requirements, take the following steps:

- The Requester submits the request with justification to the System Control Team for the change to be added to the Fast Track change list
- The System Control Team reviews the request to ensure it meets the Fast Track Criteria
 - If approved, it is added to the list of approved Fast Track items
 - If the ticket is approved, then the Implementer/Requester is notified through email the same day the ticket is approved
 - If the ticket is denied, then the Implementer/Requester is notified through email the same day stating the reason of denial
 - If denied, it must follow the Alert or Scheduled change request process

All decisions are final. The Fast Track/Exempt List is a living document that requires maintenance and version control. The updated list is maintained with the version control log.

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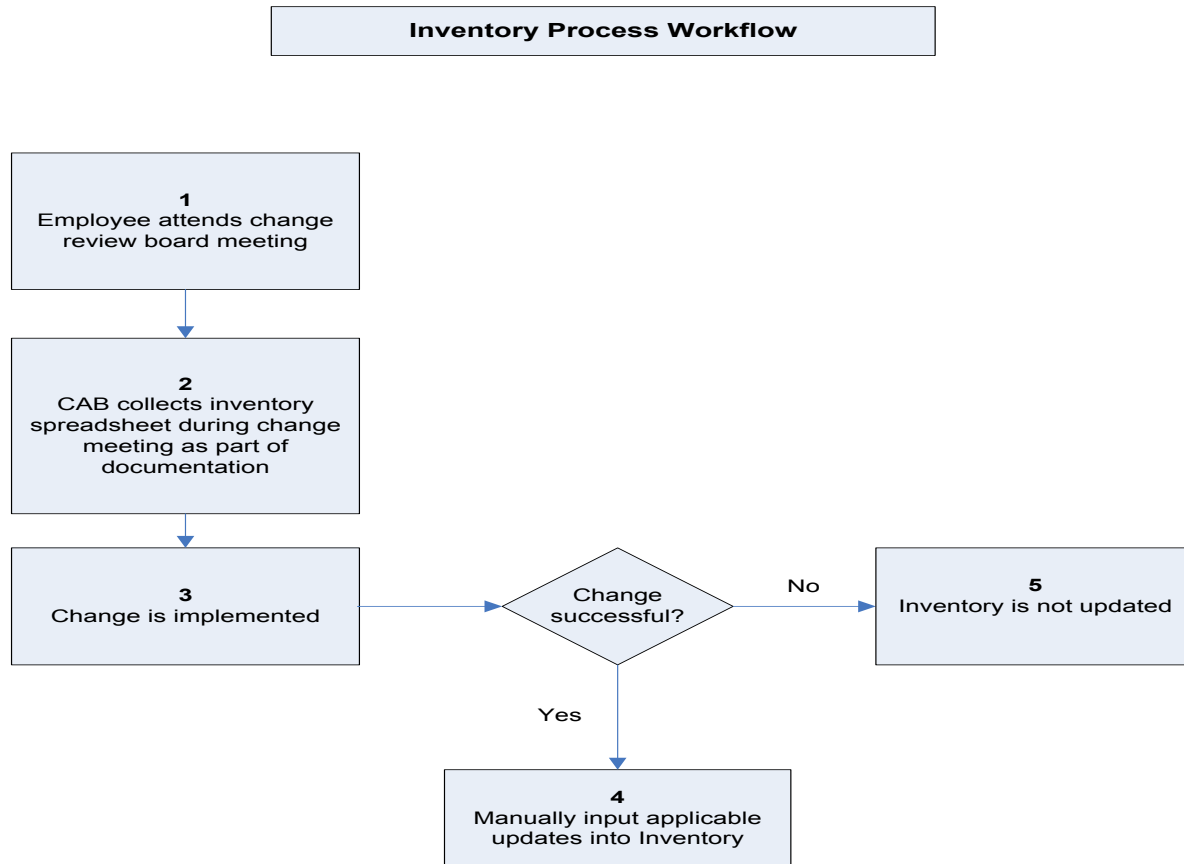
Appendix: Implementation and Back Out Plan Sample

Completed Form Example:

Planned Implementation	Date: 9/30/03	Time: 10:00 AM
List in detail, the steps required to implement your change: <ol style="list-style-type: none"> 1. Mount server in rack and plug in new server. 2. Connect to the LAN and boot up server. 3. Test connectivity from NEW server to the Network. 4. Verify customer's connectivity to the new server using new IP address and DNS name. 5. Test the check printing application. 6. Verify dummy checks printed properly. 7. Verify customer satisfaction. 8. After verification, turn off Old server and leave in place as a spare for the time being. It will be removed at a time TBD. 		
Back-Out Plan		
List in detail, the steps required to back-out your change: <p>If install of new server fails, then the existing server will continue to be used until the change is rescheduled. Total back-out time should be less than 10 minutes.</p>		

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Appendix: Inventory Process Workflow



A change that affects inventory is a change that includes; but not limited to, the addition, deletion, or changes to the following components: Hardware, Software, Applications, Systems or Facilities.

The following steps and flow shows how the data will be collected any time a change is opened that impacts the Inventory Control Module (ICM). Update the ICM upon the successful completion of the change.

1. Implementer attends a CAB meeting ready to review their change.
2. During the CAB meeting, the implementer provides the necessary information required for updating the Inventory Control Module.
3. The change implements within the assigned change window and the Change Manager verifies as successful or successful with issues.
4. The Change Manager updates the Inventory Control Module after follow-up of the change. Any information populated by the agent will be correct on the first day of each month in ServiceNow.
5. If the change is not successful, do not update the Inventory Control Module.

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Appendix: Glossary

The following acronyms and terms may be used in this or associated documents or within ServiceNow and are provided for clarification.

CMDB	Configuration Management Database
DEMA	Delaware Emergency Management Agency
DC&O	Data Center & Operations
DNREC	Department of Natural Resources and Environmental Control
DOT	Department of Transportation
DTI	Department of Technology and Information
RFC	Request For Change
ICM	Inventory Control Module
KPI	Key Performance Indicator

Terminology / Acronym	Definition
Change	For the purpose of this procedure, a change is any action that results in an addition to, alteration of, and/or deletion of but not limited to one (1) or more of the following: hardware, software, application, network, infrastructure of a computer environment, or a configurable item. The change can involve a system upgrade, hardware/software addition or deletion, modification to code, or an alteration to the network or infrastructure.
Change Advisory Board (CAB)	See Appendix: Change Advisory Board (CAB)
Change Advisory Board Emergency Committee (CAB/EC)	See Appendix: Change Advisory Board Emergency Committee (CAB/EC)
Change Approver(s)	The persons representing internal DTI teams, external agencies or school districts.
Change Implementer or Implementer	The person that is going to implement the change. The Change Implementer and the Change Requester can be the same person.
Change Initiator or Initiator	The person that opens the Change Request ticket in ServiceNow. The Initiator can be the same person as the Requester and/or Implementer.
Change Manager or Manager	A member of the Systems Control Team within the DTI. See Roles and Responsibilities section.
Change Requester or Requester	The person that is requesting the change. The Change Requester and the Change Initiator can be the same person.
Change Type	Scheduled, Alert, Fast Track, or Emergency. See Change Type Definitions section.

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Terminology / Acronym	Definition
Change Window	A block of time set aside to perform hardware and software maintenance, upgrades, etc.; the maximum allow duration of a change from start to finish.
Change Work Manager or Work Manager	The immediate supervisor of the person (Implementer) performing the implementation.
Configurable Item	Hardware, software, documentation or a set of related products broken down into the smallest manageable unit that requires administrative and change control. Includes but is not limited to system applications software, database, system hardware, system software, network hardware, network software, security, facilities and operating procedures.
DTI Internal Teams	Department of Technology and information Technology teams, e.g. Applications Delivery, Customer Care, Telecommunications, etc.
Go/No Go Points	Points in the decision making process where a determination is made to move forward with the change implementation or implement the back-out process.
Production Operating Environment	A complete integrated set of networks, hardware, and associated software tools used by the customer organization to execute applications. The production environment is different from development, test, and integrated environments.
System Control Team	The DTI team that is responsible for the management and day-to-day activities of the Change Control Process and associated procedures.